

ATLAS OF TYPHOON TRACKS.

There has recently been issued from the Zi-ka-wei Observatory, by the director, Louis Froc, S. J., a valuable work on typhoon tracks.¹ It appears in the form of an atlas, containing 21 major and 12 minor charts, with a brief introductory and explanatory discussion. The author states that his first purpose was to issue the charts as an appendix to a more general and detailed study on the oceanic storms of the Far East, but that the publication of such an essay ran the risk of considerable delay, and it was decided to publish the charts at once for the benefit of those interested.

The compilation for the atlas covers a period of 26 years, 1893-1918, during which time a total of 620 storms occurred manifesting typhoon characteristics at some period of their existence. Of the 21 principal charts there is one each for January, February, March, April, May, June, and December, which are the less active typhoon months; three each for July, August, September, and October, when the typhoon season is at its height, and two for November, when activity is decreasing. On the 12 lesser charts the data are summarized in condensed form.

In the introduction the author discusses the following subjects: The meaning of "typhoon," disturbed areas, how to read the charts, the classification of typhoons, and rate of progression on the tracks. Three tables are included—mean speed, extreme speed, and points of recurring on the tracks. There is also an explanatory note accompanying each of the major charts.

The author pays a graceful tribute to those who aided him in the preparation of the "Atlas," as follows:

We beg to present this work to all those who, by their kind and constant cooperation, for many years now, have made possible and easy the study of so numerous storms, and chiefly to the sailors, who very often in the midst of hard struggle with the elements, have found time to collect observations for the sake of those who would run the same risks after them. To establish each track of the maps there have been made use of at least 10, sometimes 20 or more, reports received from stations on land and ships at sea: and we are glad to show our benevolent cooperators, while offering them our hearty thanks, that the task spontaneously undertaken by them has not been without reaching a very important and useful aim.

The charts for January and February are reproduced in the present issue of the REVIEW. See Charts XI and XII.

The revival of shipping since the war, taking many new vessels into the typhoon area, makes the appearance of this work most timely.—*F. G. T.*

Charles W. Hendel.

Mr. Charles W. Hendel, of La Porte, Plumas County, Calif., for the past 26 years mountain snowfall observer for the Weather Bureau, was found dead in his bed recently. Though his exact age was not known, he was more than 100 years of age at the time of his death.

Mr. Hendel was born near Dresden, Germany, and received his technical education in that country. He migrated to California during the gold rush "in the days of '49," and for the past 67 years has made his home in La Porte, in the Sierra Nevada Mountains, overlooking the scenic Feather River region. He had the C. E. and M. E. degrees, and practiced the profession of civil and mining engineer for over a half century.

¹ Atlas of the Tracks of 620 Typhoons, 1893-1918, by Louis Froc, S. J., director Zi-ka-wei Observatory, Zi-ka-wei—Chang-hai, 1920.

Mr. Hendel's vigor and good health remained with him until the very end. La Porte is many miles distant from the nearest railroad station, and in a region of extremely heavy snowfall. Mr. Hendel was as agile on snowshoes as many a man 50 years his junior. His last weather report, that for August, 1920, was received on time at the San Francisco office of the Bureau. He was a careful and conscientious observer, of the type so eagerly sought as special meteorological observers.—*A. H. Palmer, Weather Bureau Office, San Francisco, Calif.*

COLOR OF THE NIGHT SKY.

By LORD RAYLEIGH.

[Excerpt from *Nature* (London), Sept. 2, 1920, p. 8.]

Eye observations on the relative brightness of a yellow and a blue gelatine film afford "definite evidence that the night sky is yellower or less blue than the day sky."

"This conclusion has been confirmed photographically. A yellow and a dense blue filter were selected, and an Ilford panchromatic plate was exposed to the sky under these. It was seen at a glance that the density under the blue filter was the greater for the twilight sky, while for the night sky this relation was reversed."

"The results point to the conclusion that the light of the night sky, whatever the cause of it may be, is not due to the scattering of sunlight by rarefied gas situated beyond the earth's shadow. The comparative absence of polarization, formerly found, points to the same conclusion."

HOT WINDS AND "NORTHERS" AT TAMPICO, MEXICO

The *Tampico Tribune* of April 10 and 24, 1920, contains notes by Mr. S. A. Grogan, the meteorological observer for the Mexican Gulf Oil Co. on the "norther" of April 3, 1920, and the hot winds of April 16-18. The first three months of the year had brought to Tampico 12 "northers," but the one of April 3 was decidedly the most severe. The wind, which came suddenly, attained a force of 60 miles per hour, and for two hours averaged 50 miles per hour. This wind was accompanied by a marked rise in the barometer of 0.64 inch in 37 hours. Mr. Grogan has previously discussed these northers.¹

The hot southwest winds have also been discussed.² These are apparently caused by dynamic heating as the dry winds descend from the Mexican plateau. The maximum temperatures on the three days were successively 98.8° F., 103.5° F., and 106.4° F. The relative humidity at times of observation was 20 per cent, 15 per cent, and 12 per cent, respectively, which was sufficient to warp and split woodwork and furniture.—*C. L. M.*

VARIABILITY OF TEMPERATURE AND DEPARTURE FROM THE MONTHLY MEAN.

By H. FICKER-GRAZ.

[Abstracted from *Meteorologische Zeitschrift*, Jan.-Feb., 1920, vol. 37, pp. 42-43.]

The day to day variability of temperature undergoes from year to year such large variations that a considerable number of years' record is necessary in order to

¹ "Northers" on the coast of Mexico, their effects, and forecast by local observations. *MO. WEATHER REV.*, July, 1919, 47:469-471.

² Hot winds at Tampico, Mexico, Apr. 6-7, 1919. *MO. WEATHER REV.*, April, 1919, 47:234.